Comparison of Utah's Current Drought To Past Years

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May 2003

Overview

Over the past year, there has been much discussion on Utah's water supply picture and how it rates to other years. The term "drought" has been used freely, and in some instances not very accurately. How bad is this drought? It has been said that this drought is the worst in the past 100 years? The current dry cycle has lasted approximately five years. Where does this dry cycle compare to other five year periods.

Depending on what data is analyzed, the drought can be termed mild, or extreme.

What we tried to do with this presentation was to analyze headwater stream volumes over the past years. Headwater river gages are not affected by upstream diversions and reservoirs. The river flow at these points are a direct result of spring snowmelt runoff volumes and measured from April through July. The runoff volumes for each year were averaged over the past five years to compare this dry cycle to past five year averages.

Headwater gages were analyzed on the Bear, Logan, Weber, Provo, Sevier, and Virgin River basins.

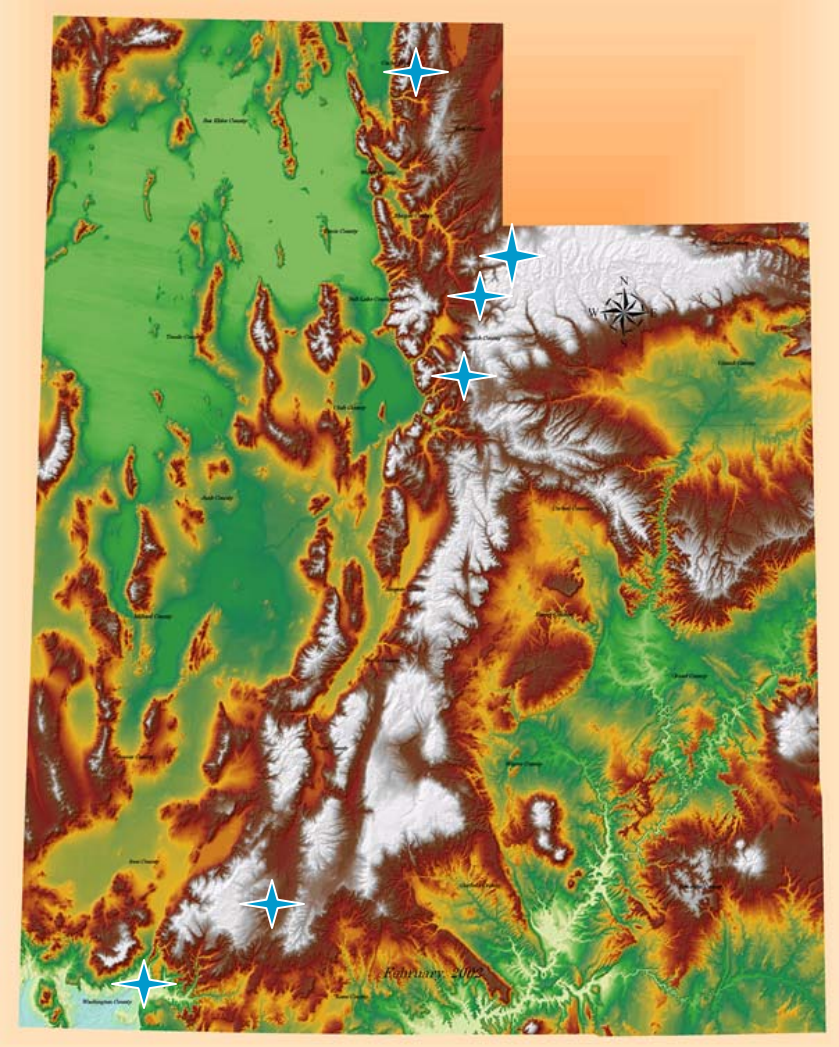
Data Analysis

- Each year river flows are observed from the period April 1st through July 1st. That flow data is recorded in the units of thousand acre feet, or kac/ft for each river gage
- We analyzed 6 headwater river gage volumes for the period of record for that gage, and averaged the data into five years groups
- The value of the river flow is attributed to the last year of the five year period
- For instance, 2003's data is an average of '03,'02,'01,'00,'99

Data Analysis

- As the 2003 water year is not yet complete, the forecasted volume was used in the analysis
- The unit of measurement is thousand acre ft. or kac/ft
- An acre foot is a unit of measurement indicating the amount of water, one acre in area, one foot deep
- When the volume of water move into the thousand category, it is given the abbreviation of kac/ft. to allow the units to become more manageable

River gages used in the analysis



Logan River nr Logan

Bear River at Ut/Wy State Line

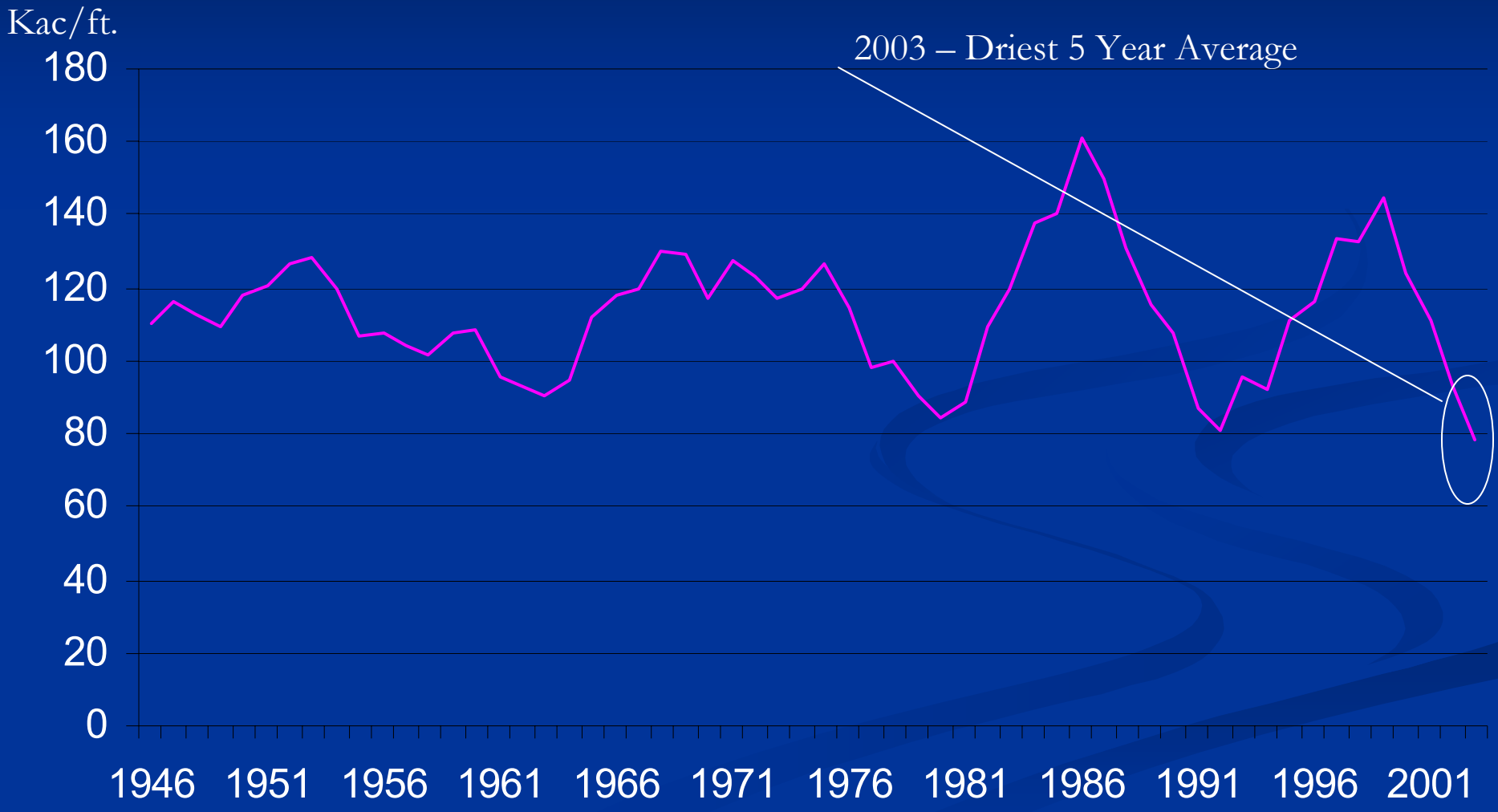
Weber River near Oakley

Provo River near Woodland

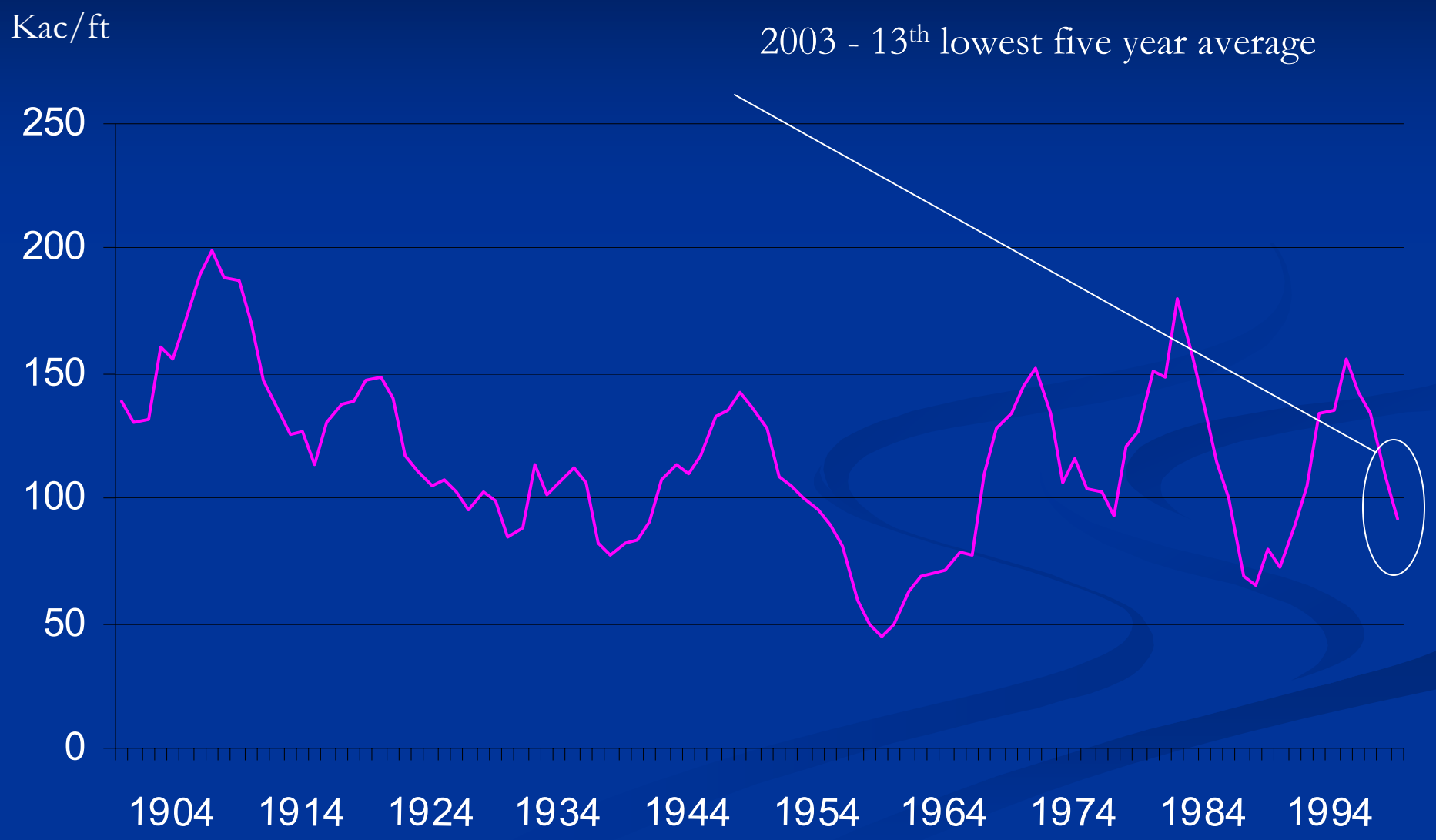
Sevier River near Hatch

Virgin River near Hurricane

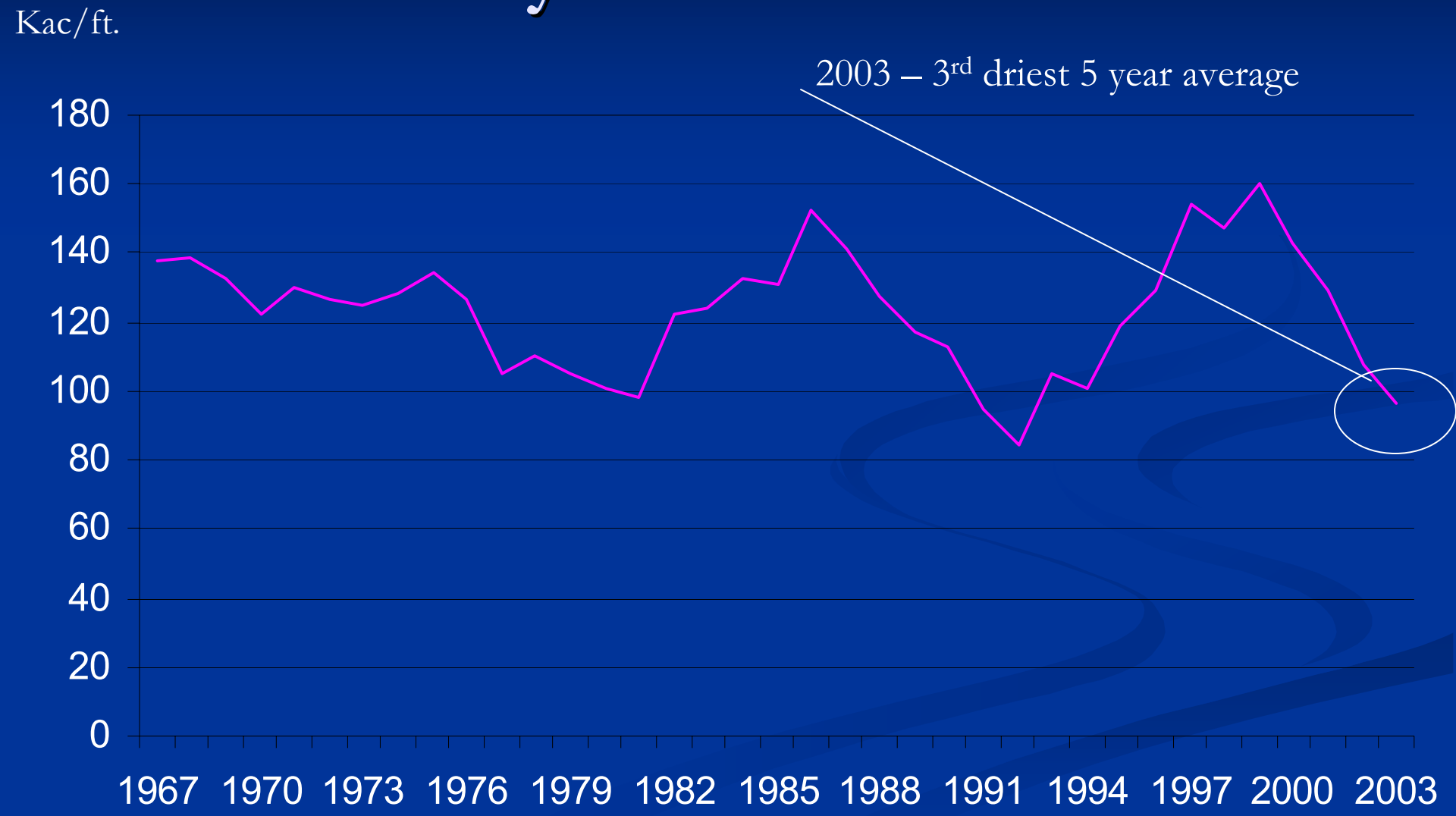
Bear River 5 Year Average Flow
55 years of record



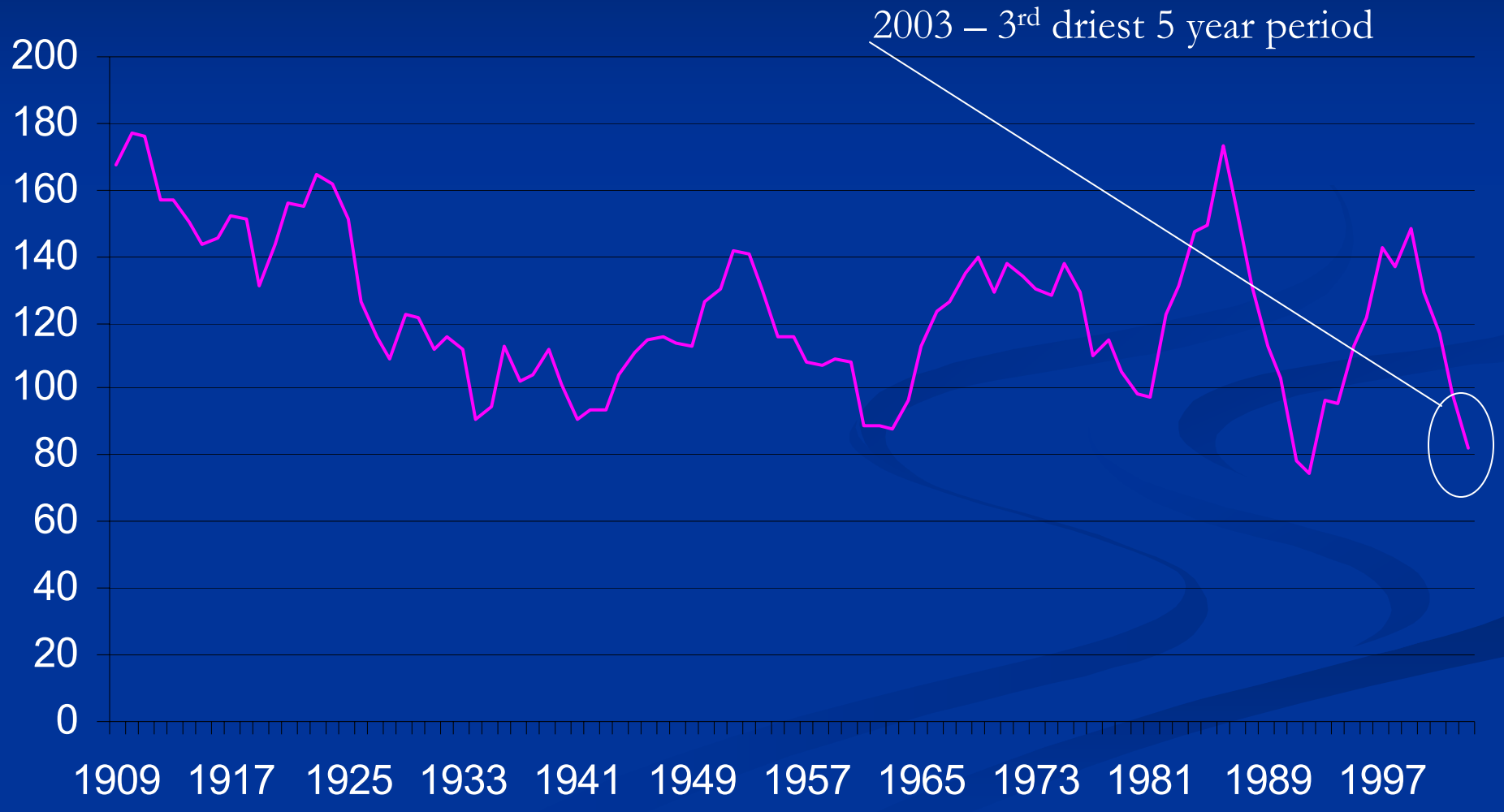
Logan River 5 Year Average Flow
99 years of record



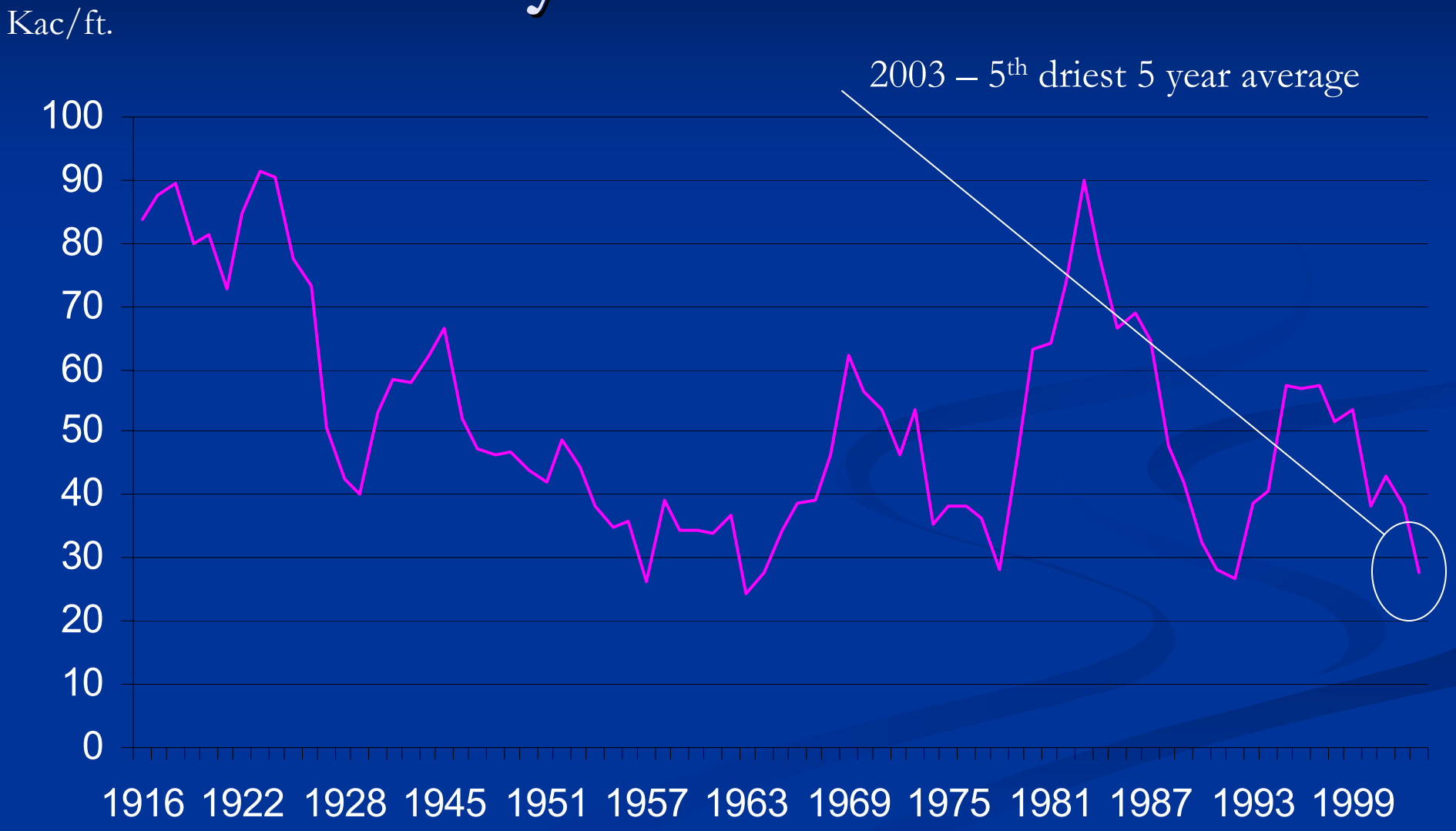
Provo River 5 Year Average Flow
36 years of record



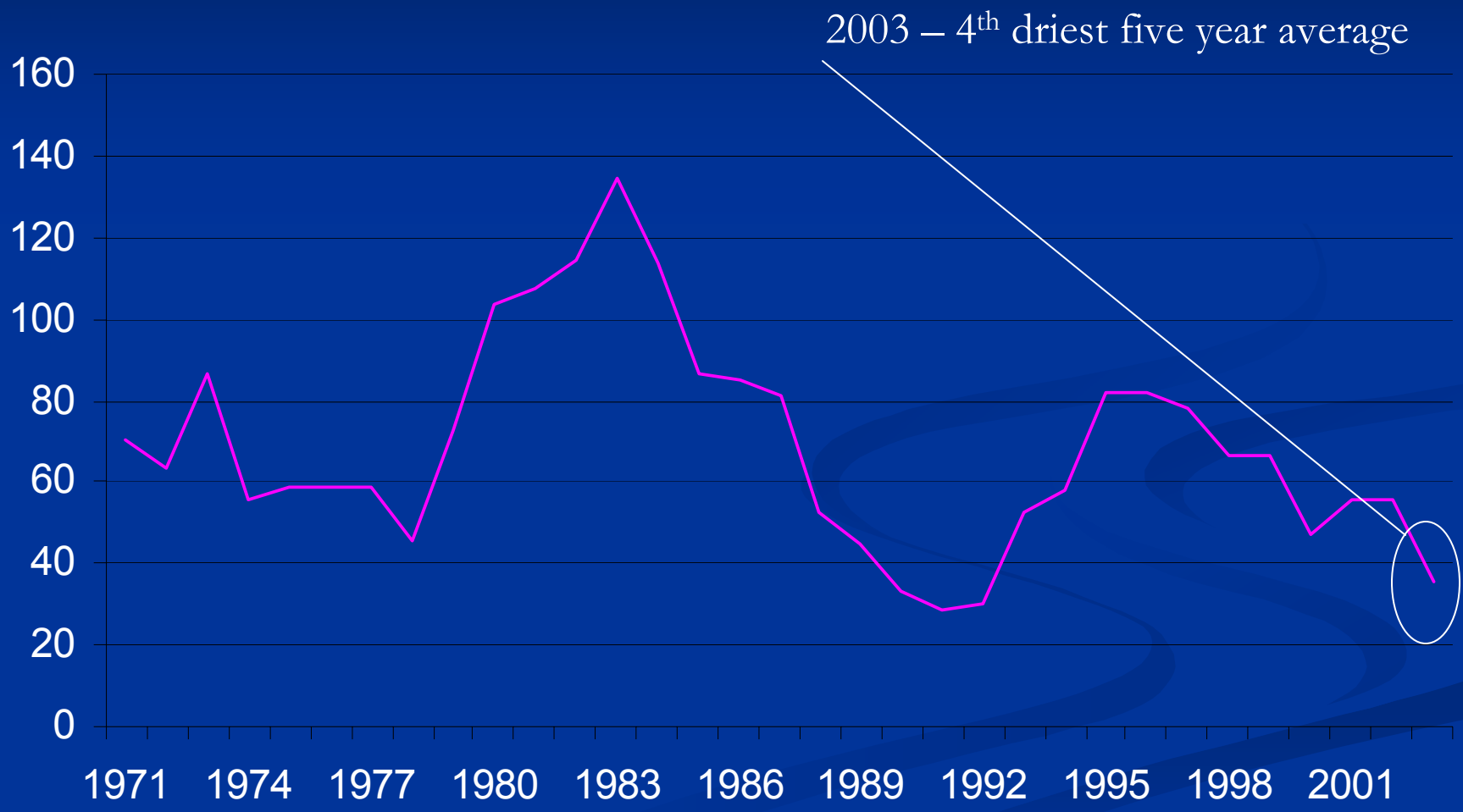
Weber River 5 Year Average Flow
94 years of record



Sevier River 5 Year Average Flow
89 years of record



Virgin River 5 Year Average Flow
33 Years of Record



Summary

- It was found that five of the six river basins had two or more years that experienced lower five year water volume averages
- The Bear River Drainage experienced the driest five year period in the past 55 years
- The last dry period worse than this year's occurred about 10 year ago
- Most basins had lower water volumes during the early 1990's

Summary

River Basin	Ranking of driest 5 year average
Bear River Drainage	1 (2003 was driest)
Logan River Drainage	13
Weber River Drainage	4
Provo River Drainage	3
Sevier River Drainage	5
Virgin River Basin	4

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Additional Information

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